



Project Management Plan

September 16, 2005

Version: 6



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Preamble:

The Project Management Plan (PMP) describes the management, control systems and procedures used by Fermi National Accelerator Laboratory (Fermilab) to meet the technical, cost, and schedule objectives of this project. This controlling document establishes the basis against which progress will be measured.

The PMP is to be viewed as a “living document,” and as such, will be revised when necessary. The Project Manager is authorized to approve non-substantive changes to the PMP (e.g. name changes to the positions cited in the PEP), but will inform the Associate Director for Operations via e-mail of such changes.

Approved by:

Steve Holmes, Associate Director for Accelerators

Roger Dixon, Accelerator Division Head

Bruce Baller, AD Projects Manager

Eric Prebys, Proton Plan Project Manager

Introduction

The Proton Plan Design Handbook and the master schedule provide a complete description of the plan elements. These documents are updated regularly to reflect progress along with changes in scope and schedule. This Project Management Plan (PMP) describes the management procedures that the Fermilab Directorate expects the AD and Proton Plan organization to use in defining the scope and goals, developing plans, monitoring, coordinating, and capturing these activities in a WBS structure and a long range plan.

Specifically, the Design Handbook documents the objectives of the upgrades, performance criteria, WBS structure, funding and manpower requirements, management structure and philosophy. The scope of this PMP is limited to management systems and procedures, reporting and meetings, baselines, control levels, performance monitoring, and change control management.

Since the Proton Plan is not a formal DOE Project, the elements of these management procedures have been simplified to provide flexibility to accomplish this complex campaign while providing adequate control to effectively attain the goals of the Plan.

Accelerator Improvement Projects (AIP) within the Proton Plan will follow DOE Order 413.3. Management procedures for AIP's are outlined in their respective Project Execution Plans.

There are two additional contributors to increasing the output of the Proton Source that are outside the scope of the Proton Plan. The key measure of success is the number of Protons on Target (PoT) to the NuMI and Booster Neutrino Beam facilities. The Proton Plan is predicated on the completion of certain elements of the Run II Upgrade project, e.g. ORBUMP magnet construction. Other reliability improvements and upgrades will be completed by the systems and support department through their operating budgets. The intent of the Proton Plan is to capture the essential elements that are needed to accomplish the intensity goals. The following criteria are used to determine the elements of the plan:

- 1) The sub-project is required in order to meet the PoT goals, and
 - a. the cost of the sub-project exceeds \$200k (M&S), or
 - b. the sub-project requires close coordination between departments.

WBS Structure and Funding

The Proton Plan Work Breakdown Structure (WBS) is shown to Level 4 in Fig. 2. The WBS and management structure reflects the budget structure.

The cost estimate described in the Plan includes the materials, services, and labor for the Proton Plan which sum over upgrades, R&D, and accelerator studies, beginning in FY 2005 and extending until anticipated completion of the upgrades in 2009.

The Proton Plan receives its funding through the normal Fermilab annual financial plan. The allocations and directions relevant to the Proton Plan funds are forwarded by the Fermilab Director to the Fermilab Accelerator Division (AD) for use by the Proton Plan Project Managers. Other Fermilab Divisions and Sections (CD, TD, PPD, BS, ES&H, FESS) may provide support for the Proton Plan.

Any change to the Proton Plan funding profile approved in the Proton Plan will be proposed to the Fermilab Associate Director for Accelerators jointly by the Head of the Accelerator Division and the Proton Plan Project Manager. A proposed change must consider a revised cost estimate, the revised funding profile, and a revised schedule for consideration and approval as a directed change.

Effective management of the Proton Plan requires careful coordination of the activities of various departments and groups. The overall management structure is shown in Fig. 1, embedded in the Fermilab and AD organization structure. Figure 2 identifies the Level 1, Level 2, and Level 3 Managers.

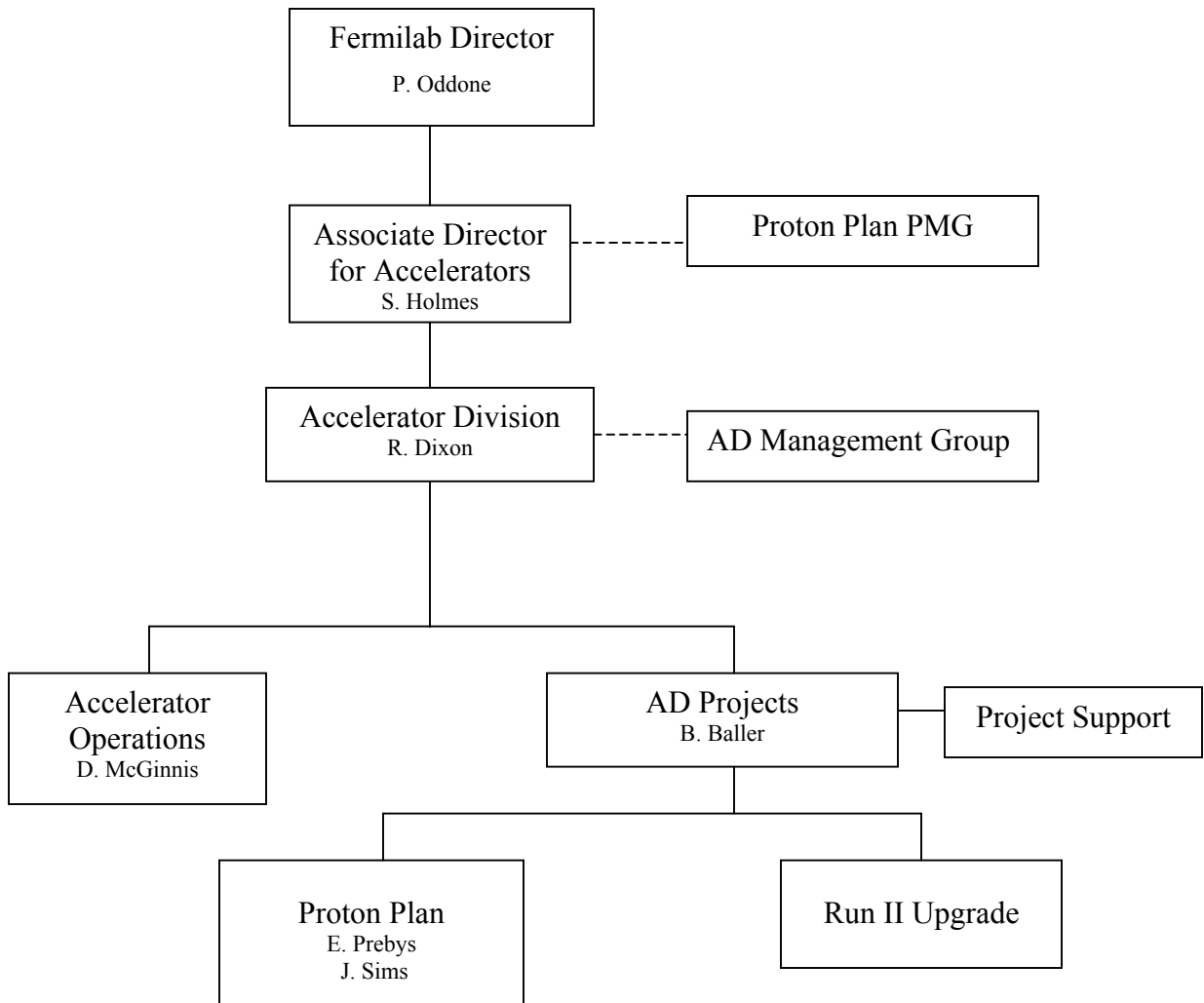


Fig. 1: Schematic of the Directorate, AD and AD Projects organization. Dotted lines indicate advisory functions. The Run II Upgrade organization is described in the Run II Upgrade Plan.

Organizational Chart by WBS

August 17, 2005

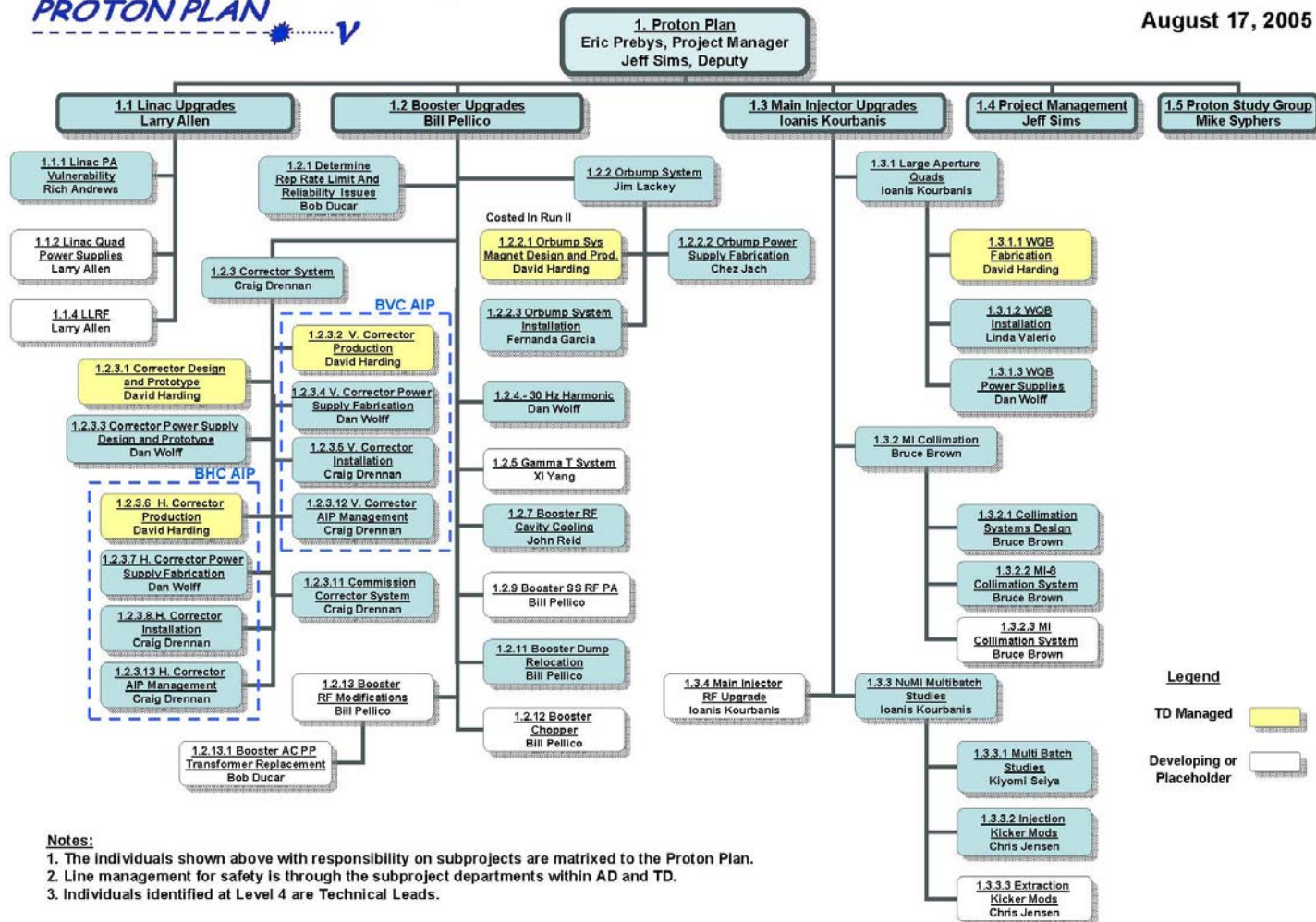


Fig. 2: Outline to WBS Level 4 including manager assignments.

Management Philosophy and Responsibilities

The following sections describe the line management responsibilities for the Proton Plan.

FERMILAB DIRECTOR

The Fermilab Director is responsible to the Universities Research Association and the Department of Energy for the successful operation of the Fermilab Accelerator complex, of which the Proton Plan is a component.

FERMILAB ASSOCIATE DIRECTOR FOR ACCELERATORS

The Associate Director for Accelerators is responsible for the administration of the Fermilab Accelerator Division and the Technical Division. In this position, the Associate Director for Accelerators meets as necessary with the Proton Plan management to help allocate resources from the organizations, the Accelerator Division and the Technical Division, reporting to that office. The Associate Director for Accelerators serves as Chairperson of the Proton Plan PMG, approves the scope of the upgrades and authorizes funding

PROTON PLAN PROJECT MANAGEMENT GROUP

The Proton Plan Project Management Group (PMG) provides continuing oversight of the entire Plan. The PMG also functions as the Laboratory's Change Control Board. The PMG is responsible for considering Change Requests that meet the criteria detailed herein and advising the Director in that regard. The PMG is also a forum for the discussion and assignment of Fermilab resources in support of the Proton Plan. The PMG consists of the following members:

- Fermilab Director (or designee)
- Fermilab Associate Director for Accelerators
- Proton Plan Project Manager
- Accelerator Division Head or designee
- Head of AD Projects Group
- Particle Physics Division Head or designee
- Technical Division Head or designee
- Spokespersons of the MINOS and MiniBooNE experiments or designees

The Fermilab Associate Director for Accelerators serves as Chair of the PMG.

FERMILAB ACCELERATOR DIVISION

The Head of the Fermilab Accelerator Division (AD) is responsible for accelerator systems including those provided by the Proton Plan. The Accelerator Division Head appoints the Proton Plan Project Manager and Level 2 Managers. The Level 1 and Level 2 managers are all members of the Accelerator Division. Although there are substantial contributions from the other Fermilab Divisions and Sections, the Accelerator Division is the primary source of leadership and manpower for this upgrade. The AD Head reports to the Fermilab Director through the Associate Director for Accelerators. The AD Head is a

member of the Proton Plan PMG. The AD Head has line responsibility for the ES&H related to the Proton Plan.

ACCELERATOR DIVISION MANAGEMENT TEAM

The AD Management Team regularly meets with the AD Head to advise both the short- and long-term strategies and plans for managing AD activities, of which the Proton Plan is just one component.

AD PROJECTS GROUP

The AD Projects Group consists of an Assistant Division Head, who is charged with management and technical oversight of the Proton Plan, and a support staff that provides scheduling, cost reporting and documentation support.

PROTON PLAN PROJECT MANAGER

The Proton Plan Project Manager is appointed by the AD Head and is responsible for all aspects of the Proton Plan. The Project Manager reports to Head of the AD Projects Group.

The Head of the Accelerator Division has delegated the following responsibilities to the Proton Plan Project Manager:

- Administering, planning, organizing, and controlling the Proton Plan to meet the technical, cost, schedule and ES&H objectives;
- Fiscal authority over Fermilab funds allocated to the upgrades;
- Monitoring expenditures included in the Resource-Loaded Schedule Plan;
- Tracking and reporting of deviations from baseline scope, schedules and costs;
- Maintaining and updating the Management Plan as needed, with the appropriate approvals of signatories to this document;
- Approval of Technical Design Reports, Memoranda of Understanding and work plans for Proton Plan subprojects;
- Establishing and maintaining mechanisms to carry out the Quality Assurance responsibilities of the Proton Plan.

The Proton Plan Project Manager, in consultation with the AD management, may appoint Level 3 Managers. The Proton Plan Deputy Project Manager has the responsibility to act as the Proton Plan Project Manager in the Project Manager's absence and may be assigned any of the Project Management duties outlined above in support of the proton Plan Project Manager.

PROTON PLAN LEVEL 2 MANAGERS

Proton Plan Level 2 Managers generate the cost estimate, schedule, and resource requirements for their Subprojects. The Level 2 managers provide information on cost,

schedule and performance for the monthly reports and update their resource-loaded schedules monthly.

PROTON PLAN LEVEL 3 MANAGERS

Proton Plan Level 3 managers are appointed by the Proton Plan Project Manager in consultation with the appropriate Level 2 Manager. They are responsible for the design, procurement, fabrication, installation, and commissioning of their Level 3 elements. Level 3 managers document the scope and baselines of the Level 3 element by maintaining the relevant portion of the Proton Plan.

RESPONSIBILITIES OF OTHER FERMILAB DIVISIONS AND SECTIONS

The heads of supporting Divisions and Sections are responsible for supplying the necessary human resources, technical resources, space resources, administration of financial resources and evaluation of ES&H issues that relate to this.

- The Business Services Section (BSS) is responsible for assisting the Proton Plan in the procurement of materials and/or services, inventory management of property and items acquired by Fermilab and legal advisement as appropriate. Whenever possible, fixed-price competitive procurement practices will be used. After receiving appropriate approval, purchase requisitions are processed by the BSS Procurements Group.
- The Environment, Safety & Health Section is responsible for oversight of ES&H on the Fermilab site and provides the primary contact with DOE-FAO for matters related to site-wide ES&H. Support activities include safety training, assessments and monitoring plans.
- The Facilities Engineering Services Section provides engineering and design support for the Proton Plan, including design, inspection, progress monitoring and payment approval for on-site construction activities.
- The Technical Division provides support in design and construction of magnets and other technical devices.
- The Computing Division provides support in the design, construction, and commissioning of accelerator instrumentation and controls.

Management Systems and Procedures

This Section describes systems and procedures that are used to manage the cost, schedule and technical aspects of the Proton Plan and the interactions that exist among them. Although various management procedures are described separately here, they are mutually supportive and will be used in an integrated manner. As the Proton Plan evolves, our management systems may be modified in order to operate efficiently under changing conditions. Significant changes will be reflected in a revision of this document. Consequently, while the policy and objectives of each management system will remain fixed, the methods, techniques and procedures will be adapted to the needs of the upgrades.

REPORTING

This Section describes mechanisms of written communication within the Proton Plan, including regularly issued reports and updates to management documents.

The Proton Plan Project Manager will provide monthly report presentations to the Fermilab Directorate through the Proton Plan PMG. The summary content of these monthly report presentations will be available on the Proton Plan web-site maintained by the PMG Chairman. The format of the monthly Proton Plan Report may vary but the basic information will include:

- Upgrade Description
- Overview of Status
- Master Schedule and Milestones (with Critical Path milestones indicated)
- Funding Summary
- Narrative Highlights
- Variance Analysis
- Cost Performance Reports

REPORTING REQUIREMENTS FOR THE LEVEL 2 AND LEVEL 3 MANAGERS

The Level 2 and Level 3 managers provide monthly progress reports to the Proton Plan Project Manager. Level 3 Managers also provide monthly updates of the Resource-Loaded Schedule (RLS) for their elements to the Proton Plan Project Manager and the appropriate Level 2 Manager.

OTHER REPORTS

The Plan describes the technical baseline of the Proton Plan. The Plan will be updated and controlled following change approvals and for periodic external reviews. In addition, a set of technical documents (referenced in the Plan) is maintained electronically and is accessible via the World Wide Web.

MEETINGS

The following meetings are regularly scheduled to coordinate the efforts of the various elements on the Proton Plan:

- Monthly meetings of the Proton Plan PMG.
- Bi-weekly meetings of the Proton Plan Staff including Level 1, Level 2, and Level 3 Managers.
- Level 3 Managers are expected to hold regular meetings with their individual staffs.

Project Baseline, Control Levels, and Performance Monitoring

The baseline and control levels are defined in a two-tiered manner that provides change control authority at the appropriate management level. Procedures for making changes to the baseline are described in the Change Control Management section.

The technical baseline is described in the Proton Plan document. The cost and schedule baseline are listed in Tables 2 - 4. All costs in this document include Materials and Services (M&S), Salary, Wages and Fringe (SWF) + Other Paid Time Off (OPTO), escalation at the standard DOE rate and contingency. General and Administrative costs (G&A) are not included. The associated change control levels are outlined in Table 1.

Project milestones are classified as follows:

Level A milestone: A major milestone that directly affects the achievement of a “Protons on Target” (PoT) goal.

Level B milestone: A major milestone that does not directly affect a PoT goal.

Level C milestone: An internal project milestone.

Change Control Thresholds	Directorate	Project Manager
Technical	Any change that affects ES&H requirements. Any change that affects the PoT projections by more than 10%.	Changes that do not affect ES&H requirements or affect technical scope
Cost	Any change to the Total cost exceeding \$100k.	Any cost change at Level 2 or contingency use less than \$100k
Schedule	Any change to the critical path. Any change to a Level A milestone by more than 1 month.	Any change to a lower level milestone by more than 1 month.

Table 1: Baseline Change Control Levels.

WBS Element	Item	Cost (k\$)
1.0	Total Cost	\$25,664
1.1	Linac Upgrades	\$7,874
1.2	Booster Upgrades	\$11,551
1.3	Main Injector Upgrades	\$4,532
1.4	Management	\$1,692
1.5	Proton Plan Phase II study	\$15

Table 2: Baseline Cost Table. (As of 8/22/05)

WBS	Name	Start	Finish 2004	2005	2006	2007	2008	2009
				4 1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
1	Proton Plan	Thu 9/30/04	Wed 5/27/09					
1.1	Linac Upgrades	Wed 12/15/04	Fri 1/18/08					
1.1.1	Linac PA Vulnerability	Wed 12/15/04	Fri 8/10/07					
1.1.2	Linac Quad Power Supplies	Mon 1/3/05	Fri 1/18/08					
1.1.4	200 Mhz LLRF Upgrade	Thu 9/1/05	Mon 10/1/07					
1.2	Booster Upgrades	Thu 9/30/04	Wed 5/27/09					
1.2.1	Booster RF Duty Cycle Limits	Mon 8/8/05	Thu 10/6/05					
1.2.2	OrBump System	Thu 9/30/04	Wed 1/25/06					
1.2.3	Corrector System	Tue 1/4/05	Wed 5/27/09					
1.2.4	30 Hz Harmonic	Mon 1/3/05	Mon 9/18/06					
1.2.5	Gamma-t System	Mon 5/2/05	Fri 11/21/08					
1.2.7	Booster RF Cavity Cooling	Tue 1/4/05	Fri 11/11/05					
1.2.9	Booster Solid State RF Upgrade	Mon 10/3/05	Mon 10/3/05					
1.2.11	Booster Dump Relocation	Mon 5/2/05	Tue 1/10/06					
1.2.12	Booster Chopper	Mon 10/3/05	Mon 10/2/06					
1.2.13	Booster RF Reliability Improvements	Mon 8/22/05	Mon 10/2/06					
1.3	Main Injector Upgrades	Thu 9/30/04	Tue 1/9/07					
1.3.1	Large Aperture Quads - WQB	Thu 9/30/04	Fri 8/25/06					
1.3.2	Collimation Systems	Tue 2/1/05	Fri 12/1/06					
1.3.3	NuMI Multibatch Operation	Mon 2/7/05	Tue 1/9/07					
1.3.4	Main Injector RF Upgrade	Tue 3/1/05	Mon 3/6/06					
1.4	Management	Tue 2/1/05	Tue 5/26/09					
1.5	Proton Study Group	Fri 4/1/05	Fri 3/31/06					

Table 3: Baseline Schedule. (As of 8/22/05)

Uniq	WBS	Name	MS Class	Fin	2003				2004				2005				2006				2007				2008				2009				2010				2011				2012																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Table 4: Baseline schedule milestones. (As of 8/22/05)

WORKING SCHEDULE

The Proton Plan Project Manager maintains a detailed working cost and schedule forecast that is updated monthly, using new information from subproject managers and from the Fermilab accounting system. The cost and schedule information covers all funded work including manpower, and is included at an appropriate summary level in the monthly report to the Fermilab Directorate. The working schedule shows projected dates for achieving milestones taking account the actual progress to date.

Responsibility for the collection of information, updating of databases, and report generation is carried by the AD Projects Group support staff.

BASELINE SCHEDULE

The RLS is used as the detailed baseline for monitoring and control within the Proton Plan. The cost and schedule information goes down to detailed WBS levels. The latest summary of the Cost Estimate is found in the latest monthly report.

Level 3 milestones are presented in Proton Plan monthly reports as a basis for comparison with the working schedule.

Changes to the Resource-Loaded Schedule will be made in accordance with the change control process described in the Change Control Management section.

VARIANCES

Monthly schedule and cost variances are computed and used as management tools to identify, analyze and rectify significant deviations from the detailed baseline as early as possible. Earned value analysis will be accomplished using Cobra.

Change Control Management

Change Control Management refers to the process of proposing, approving, and making any changes to technical, cost and schedule baseline. The sequence of steps in this process is:

1. Proposing any change. This is done by submitting a Change Request (CR) to the Proton Plan Project Manager.
2. Approval of the CR. Any CR will be reported to the Proton Plan Project Manager. If the impact of the requested change exceeds the thresholds herein, the Proton Plan Project Manager will submit it to the Proton Plan PMG for consideration. If approved, the Chairman of the PMG will submit it for approval by the Fermilab Associate Director for Accelerators.
3. Changing the baseline after approval of the CR. This will be done by the Proton Plan Cost and Schedule Administrators. Technical aspects of approved changes will be documented in Technical Notes, or in documentation associated with technical reviews.

The following sections describe steps 1 and 2 in more detail.

MAKING A CHANGE REQUEST

A CR should be submitted by a subtask manager in any of the following situations:

- 1) A technical change in the design is proposed which is likely to have any of the following:
 - Significant effects upon the system performance, or require a revision of the Technical Notes.
 - Schedule impact such that a Level A milestone on the critical path per phase might be shifted by more than 30 days.
 - Schedule impact such that a Level B milestone not on a critical path per phase might be shifted by more than 60 days.
 - Cost impact at the level of 20% of the subsystem to which the change is to be made.

Note that most technical changes that arise from refinements of engineering designs or from Value Engineering studies are not expected to require CR's.

- 2) A significant cost baseline change is indicated by a new estimate or because of actual bids on a large purchase, actual experience with work accomplished to date, or accumulation of cost variances in smaller tasks and purchases. "Significant" should be construed in terms of the thresholds using about 25% of the PMG consideration level.
- 3) A significant schedule change is indicated, arising from a new estimate or actual bids on key purchases, or experience gained, or accumulation of smaller schedule variances. A threshold of 30/60 days as described above should be used.

- 4) An administrative change is planned which will require a modification or restructuring of the WBS. Implementing such major changes will require considerable effort by the Proton Plan Support Staff.

CR's should be submitted using a standard form and identified by a log number. See Attachment A for the CR form. They will be maintained in an accessible file in the Proton Plan Project Office and will be updated with approval and status information.

APPROVAL OF CHANGE REQUESTS

The following two sub-sections show the baseline and change control thresholds for approval by the Directorate (as advised by the PMG, which functions as the Change Control Board).

TECHNICAL BASELINE CHANGES

The technical scope of Proton Plan is outlined in the Plan and electronic web-links to technical references are provided therein. Level 3 managers are encouraged to keep their respective Technical Notes updated as necessary.

COST AND SCHEDULE BASELINE CHANGES

Cost Changes may involve either the transfer of money only from one WBS element to another (within the total cost estimate in the Plan), or may include the utilization of contingency. Cost changes in future fiscal years do not require transfer of any funds in the current fiscal year. Change control levels for transferals are indicated in Table 1.

Any single Change Request exceeding \$100K is presented to the Change Control Board. Upon their approval the cost estimate databases are updated by the AD Projects Group. In cases where the change represents an obligation of additional funds during the current fiscal year AD HQ will initiate an Oracle PA budget upload to reflect the reallocation of funds from the Proton Plan Management Reserve WBS element to the appropriate WBS elements as set forth in the CR.

Change Request's that are less than \$100K are submitted to the Head of the AD Projects Group for approval. Once approved, the cost estimate databases are updated by the AD Projects Group. In cases where the change represents an obligation of additional funds during the current fiscal year AD HQ will initiate an Oracle PA budget upload to reflect the reallocation of funds from the Proton Plan Management Reserve WBS element to the appropriate WBS elements as set forth in the Change Request. These Change Requests are accumulated until they total \$100K at which point they are submitted to the Change Control Board in aggregate for their concurrence. These cumulative submittals will include a statement that itemizes each Change Request as well as a copy of the Management Reserve Log containing the details of all management reserve transactions and the current balance.

A Change Request will also be used to document the transfer of Directorate held contingency to the Proton Plan Management Reserve WBS element. Directorate

contingency transfers will usually occur for one of the following reasons: 1) to reflect the release of contingency at the beginning of each fiscal year for as yet unspecified use, 2) under special appeal in cases where some aspect of the work exceeds the cost estimate by a substantial amount or if new scope of significant value is added, or 3) for early commitment of future year funding.

FINANCIAL MANAGEMENT AND WORK AUTHORIZATION

Task codes will be established by the Fermilab Budget Office following the WBS structure and assigned at the most appropriate level consistent with the tracking and reporting requirements established for this upgrade. The accumulation of costs in these accounts will be initiated through purchase requisitions (M&S costs) and SWF cost transfers. Purchase requisitions originate with the engineering and scientific staff assigned to the various sub-systems. Signature authority levels will be provided to the Fermilab Business Services Section by the Proton Plan Project Manager to assure that only authorized work is initiated.

At any time, the contingency for the Proton Plan is the difference between the total cost estimate in the Resource-Loaded Schedule and the current Estimate at Completion (EAC).

Authorized work is identified in the RLS. Initiation of authorized work is controlled through the requisition approval process and regular communication within the management structure described in Section 2. Monitoring of authorized work is achieved through monthly report documentation and cost report analyses, as well as regular managerial communication.

QUALITY ASSURANCE

The most important aspect of Quality Assurance is the review process to assure that what is being proposed and built will effectively meet the needs of the Proton Plan goals. There are two types of reviews that help accomplish this goal, both internal to the Proton Plan organization, and external.

Internal Reviews:

The Proton Plan specifically schedules milestones for the evaluation of vital elements. In addition, technical reviews may be required of many of the individual sub-projects at the requirements, specifications, conceptual design, and installation stages. These reviews are carried out by teams of experts independent of the element being reviewed, from within the Accelerator Division, from other Fermilab Divisions and Sections, or from other Laboratories. These reviews are commissioned by the Head of the AD and the committee reports back to the Head of the AD. The Project Manager and L2 managers are responsible for defining and accomplishing timely follow-up actions in response to the review recommendations. The Proton Plan Project Manager may initiate additional design reviews as appropriate.

External Reviews:

Independent assessments by qualified individuals comprise a fundamental quality assurance process for the Proton Plan. The results of such assessments can help to

identify problems, suggest solutions and provide for overall improvement. Examples of reviews of the Proton Plan that are conducted on a periodic basis are those by the Fermilab Accelerator Advisory Committee, Director's (Temple) Reviews and reviews by the Department of Energy. The Fermilab Director will, at his discretion, call for additional reviews of the Proton Plan.

Environment, Safety & Health

The design, construction, commissioning, operation, and de-commissioning of all Proton Plan systems will be performed in compliance with the standards in the Fermilab ES&H Manual, and all applicable ES&H standards in the Laboratory's "Work Smart Standards" set. In addition, all related work will be performed in compliance with applicable federal, state and local regulations. There are no special hazards, other than those commonly encountered in the operation, maintenance, and regular improvement of existing accelerator systems. Changes to shielding assessments and the AD Safety Assessment Document will be required in order to meet the Proton Plan goals. The ES&H organizations and processes to accomplish these activities are already in place and are an integral component of the planning process. Fermilab and all participants of the Proton Plan follow Integrated Safety Management practices. Each person is responsible for following good ES&H practices in the course of his or her own work.

Attachment A



Change Request

Log number (provided by project office): CR#		
1) DATE:	2) WBS:	3) ORIGINATOR:
4) WBS DESCRIPTION OF PRIMARY AFFECTED TASKS:		
5) TECHNICAL DESCRIPTION AND PRIMARY MOTIVATION OF CHANGE:		
6) ASSESSMENT OF COST IMPACT (identify any change in resources needed) Estimated M&S Cost Increase: \$0 Estimated Labor Cost Increase:		
7) ASSESSMENT OF SCHEDULE IMPACT AND AFFECTED MILESTONES (identify slip or stretch of work or change in plan):		
8) SECONDARY IMPACT AND OTHER COMMENTS:		
9) APPROVALS Level 2 Project Manager _____ Signature / Date Level 1 Project Manager _____ Signature / Date		
10) DIVISION/DIRECTOR APPROVAL <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 40%;"> <input type="radio"/> APPROVED <input type="radio"/> DISAPPROVED </div> <div style="width: 55%; text-align: right;"> _____ / _____ Roger Dixon, Accelerator Division Head </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> <div style="width: 40%;"> <input type="radio"/> APPROVED <input type="radio"/> DISAPPROVED </div> <div style="width: 55%; text-align: right;"> _____ / _____ Steve Holmes , Associate Director for Accelerators </div> </div>		